

Response Under 37 CFR §41.41(a)
In Further Support of the Appeal Brief dated November 2, 2010
Appeal of Final Office Action dated February 16, 2010
Paper Dated: January 18, 2011
Application No. 10/566,433
Attorney Docket No. 5734-090631

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 10/566,433 Confirmation No. 5657
Appellants : Daisuke MUKAI et al.
Filed : August 6, 2004
Title : LOW CO HYDROGEN STORAGE ALLOY
Group Art Unit : 1793
Examiner : Jesse Randall Roe
Customer No. : 28289

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

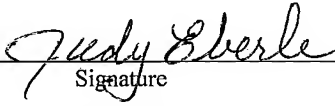
REPLY BRIEF TO EXAMINER'S ANSWER PURSUANT TO 37 CFR §41.41(a)

Sir:

In further support of the Appeal Brief filed on November 2, 2010, and in response to the Examiner's Answer mailed on November 19, 2010, Appellants submit this Reply Brief under 37 C.F.R. §41.41.

I hereby certify that this correspondence is being electronically submitted to the United States Patent and Trademark Office on the date below.

January 18, 2011
Date


Signature

Judy Eberle

Typed Name of Person Signing Certificate

ARGUMENT IN REPLY

I. Introduction

The Examiner's Answer of November 19, 2010 has been reviewed and the Examiner's comments carefully considered. Claims 11, 15, and 17-23 are pending in this application and are the subject of this Appeal, of which claims 11 and 21-23 are in independent form. Claims 1-5 and 13 have been cancelled, and claim 6-10, 12, 14, and 16 were withdrawn from further consideration in view of an earlier restriction requirement. Accordingly, claims 1-10, 12-14, and 16 are not at issue in this Appeal.

II. Allowable Subject Matter

Initially, the Appellants would like to thank the Examiner for withdrawing the rejection of claims 11, 15, and 17-23 under 35 U.S.C. §103(a) for obviousness based upon United States Patent No. 6,261,517 to Kaneko et al. alone, or alternatively in view of the article entitled "Improvement of Characteristics of Hydrogen Storage of Mischmetal-Nickel-Manganese Alloy" to Suzuki et al. (hereinafter "the Suzuki article"), and for the indication that claims 8 and 20 would be allowable if rewritten in independent form to include the language of the base claim and any intervening claims..

III. Remaining Prior Art Rejections

Claims 11, 15, 17, and 19 stand finally rejected under 35 U.S.C. §103(a) for obviousness based upon United States Patent No. 6,372,059 to Yasuda et al. (hereinafter "the Yasuda patent") alone, or alternatively in view of the Suzuki article. Claims 11, 15, 17, 19, and 21-23 stand finally rejected under 35 U.S.C. §103(a) for obviousness based upon United States Patent No. 5,910,379 to Kasashima et al. (hereinafter "the Kasashima patent") with evidence from the article entitled "Low-Temperature Heat-Capacity Study of Haucke Compounds CaNi₅, YNi₅, LaNi₅, and ThNi₅" to Takeshita et al. (hereinafter "the Takeshita article") alone, or alternatively, in view of the Suzuki article. In view of the following remarks, the Appellants continue to request reversal of these rejections.

Initially, the Appellants continue to contend that independent claims 11 and 21-23 are allowable over the Yasuda patent alone, or alternatively in view of the Suzuki article and over the Kasashima patent with evidence from the Takeshita article alone, or alternatively, in view of the Suzuki article for the reasons set forth in the Appeal Brief of November 2, 2010 even in view of the arguments set forth by the Examiner in the Examiner's Answer of November 19, 2010.

In addition, the Appellants would like to emphasize the arguments set forth on page 17 of the Appeal Brief regarding the Suzuki article as these arguments were not addressed by the Examiner in the Examiner's Answer and provide clear evidence that that claimed invention is patentable over the prior art of record. Although these arguments were set forth under the section entitled I. Claims 11, 15, and 17-23 are not rendered obvious by the Kaneko patent alone, or alternatively in view of the Suzuki article, these arguments are equally applicable to the other prior art rejections set forth by the Examiner.

More specifically, independent claim 11 requires that the c-axis length is not less than 405.6 pm (4.056 Å) and not more than 406.9 pm (4.069 Å); independent claim 21 requires that the c-axis length is not less than 405.9 pm (4.059 Å) and not more than 407.2 pm (4.072 Å); independent claim 22 requires that the c-axis length is not less than 406.0 pm (4.060 Å) and not more than 407.3 pm (4.073 Å); and independent claim 23 requires that the c-axis length is not less than 406.1 pm (4.061 Å) and not more than 407.4 pm (4.074 Å) as required by independent claim 23. The Examiner relies on the Suzuki article as disclosing that c-axis length varies and therefore can be modified depending on the heat treatment conditions. FIG. 6(B) of the Suzuki article illustrates this relationship between heat treatment temperature and c-axis length. FIG. 6(B) of the Suzuki article is reproduced hereinafter.

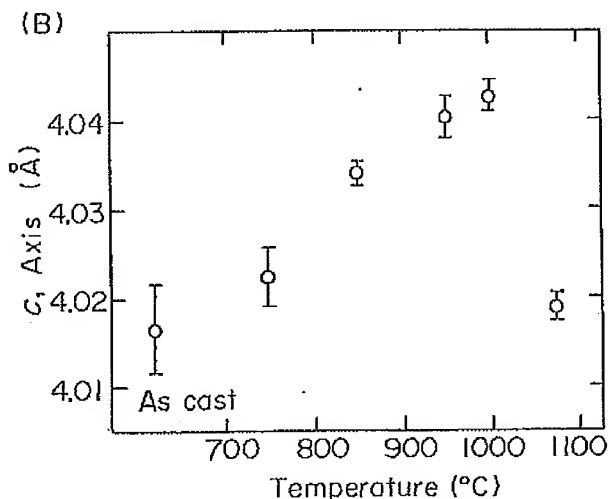


Fig. 6 Lattice parameters, a (A) and c (B), of $\text{MnNi}_{4.5}\text{Mn}_{0.5}$ as a function of temperature of annealing for 2 hrs.

This graph illustrates that as temperature increases, the c-axis length becomes longer and reaches about 4.04Å at a maximum in a heat treatment temperature range of 700° to 1000° C. However, as clearly seen in the graph of FIG. 6(B), the c-axis length becomes dramatically smaller when the heat treatment temperature is above 1000° C. Accordingly, the Suzuki article discloses c-axis lengths that are below the claimed ranges of claims 11 and 21-23. In addition, FIG: 6(B) of the Suzuki article clearly discloses that the claimed c-axis lengths of claims 11 and 21-23 cannot be achieved by merely increasing the heat treatment temperature as the Examiner contends.

In order to further clarify this distinction, Appellants submit herewith a translation of Section 3.3 of the Suzuki article. This translation does not qualify as new evidence that is prohibited from being submitted with a Reply Brief under 37 C.F.R. §41.41(a)(2) because a complete copy of the Suzuki article was submitted with the Supplemental Information Disclosure Statement filed July 7, 2009. This translation merely clarifies a portion of the article by providing the Examiner with an English-translation of that portion.

Accordingly, it would not have been obvious to one of ordinary skill in the art to combine the teachings of the Suzuki article with the Yasuda patent or with the Kasashima patent

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with evidence from the Takeshita article to arrive at the invention of independent claims 11 and 21-23.

Appellants respectfully submit that independent claim 11 is allowable over the Yasuda patent alone, or alternatively in view of the Suzuki article, and independent claims 11 and 21-23 are allowable over the Kasashima patent with evidence from the Takeshita article alone, or alternatively in view of the Suzuki article for at least the foregoing reasons and the reasons set forth in the Appeal Brief filed November 2, 2010. Appellants respectfully request that the rejection of claim 11 as obvious in view of the Yasuda patent alone, or alternatively in view of the Suzuki article and the rejection of claims 11 and 21-23, as obvious in view of the Kaneko patent alone, or alternatively in view of the Suzuki article under 35 U.S.C. §103, be reversed.

Claims 15, 17, and 19 are dependent, either directly or indirectly, upon independent claim 11 and are allowable over the Yasuda patent alone, or alternatively in view of the Suzuki article and the Kasashima patent with evidence from the Takeshita article alone or in combination with the Suzuki article for at least the same reasons as independent claim 11. Appellants respectfully request that the rejection of claims 15, 17, and 19, as obvious in view of the Yasuda patent alone, or alternatively in view of the Suzuki article and as obvious in view of the Kasashima patent with evidence from the Takeshita article alone, or alternatively in view of the Suzuki article under 35 U.S.C. §103, be reversed.

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IV. Conclusion

In view of the foregoing and the arguments presented in Appellants' Appeal Brief of November 2, 2010, the pending claims define patentable subject matter, and reversal of the Examiner's rejections is respectfully requested. Any questions or comments regarding this Reply Brief should be directed to the Appellants' undersigned representative.

Respectfully submitted,

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